

U.S. Application No. 09/734,228
Reply to Office Action of April 21, 2006

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PATENT
450117-02965

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REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-2, 4-5, 9-12, and 14-21 are pending. Claims 1 and 14, which are independent, are hereby amended. Claims 3, 6-8 and 13 have been canceled, without prejudice or disclaimer of subject matter.

Support for this amendment is provided throughout the Specification as originally filed. No new matter has been introduced by this amendment. Changes to the claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicant is entitled.

II. REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 1-2, 4-5, 9, 14 and 18-21 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No 6,539,353 to Jiang et al. (hereinafter, merely "Jiang") in view of U.S. Publication No. 2002/0128821 to Ehsani et al. (hereinafter, merely "Ehsani"), and further in view of U.S. Patent No. 6,067,510 to Kimura et al. (hereinafter, merely "Kimura").

Claims 6-7 and 10-12 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Jiang in view of Ehsani and Kimura, and further in view of U.S. Patent No. 5,797,123 to Chou et al. (hereinafter, merely "Chou").

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Claim 1 recites, *inter alia*:

“... wherein said semantic information includes description of said sub-phrases and said pragmatic information includes connecting information connecting said sub-phrases to actual situation, application, and/or action;

... wherein a language model is used containing at least a recognition grammar built up by at least a low-perplexity part and a high-perplexity part, each of which being representative for distinct low- and high-perplexity classes of speech elements; and

wherein word classes are used as classes for speech elements or fragments.” (Emphasis added)

As understood by Applicant, Jiang relates to a method and apparatus for speech recognition. The method and apparatus convert an analog speech signal into a digital signal and extract at least one feature from the digital signal. A hypothesis word string that consists of sub-word units is identified from the extracted feature. For each identified word, a word confidence measure is determined based on weighted confidence measure scores for each sub-word unit in the word. The weighted confidence measure scores are created by applying different weights to confidence scores associated with different sub-words of the hypothesis word.

As understood by Applicant, Ehsani relates to the creation of grammar networks that can regulate, control, and define the content and scope of human-machine interaction in natural language voice user interfaces. More specifically, Ehsani concerns a phrase-based modeling of generic structures of verbal interaction and use of these models for the purpose of automating part of the design of such grammar networks.

As understood by Applicant, Kimura relates to a machine interpreter and method for providing a structure in which words are sorted and hierarchically displayed as candidates for substitution in particular order by the display. The words are pre-stored in variable and invariable word groups. The words of a variable word group are displayed, a word is selected,

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and a translation takes place based on an invariable word group of an input sentence and the selected word.

As understood by Applicant, Chou relates to a key-phrase detection and verification method that can be advantageously used to realize understanding of flexible (i.e., unconstrained) speech. A "multiple pass" procedure is applied to a spoken utterance comprising a sequence of words (i.e., a "sentence"). First, a plurality of key-phrases are detected (i.e., recognized) based on a set of phrase sub-grammars which may, for example, be specific to the state of the dialogue. These key-phrases are then verified by assigning confidence measures thereto and comparing these confidence measures to a threshold, resulting in a set of verified key-phrase candidates. Next, the verified key-phrase candidates are connected into sentence hypotheses based upon the confidence measures and predetermined (e.g., task-specific) semantic information. And, finally, one or more of these sentence hypotheses are verified to produce a verified sentence hypothesis and, from that, a resultant understanding of the spoken utterance.

Applicant respectfully submits that nothing has been found in Jiang, Ehsani, Kimura, or Chou, taken alone or in combination, that would teach or suggest the above-identified features of claim 1. Specifically, Jiang, Ehsani, Kimura, and Chou, taken alone or in combination, do not teach or suggest that said pragmatic information includes connecting information connecting said sub-phrases to actual situation, application, and/or action. Additionally, the cited combinations do not teach or suggest that a language model is used containing at least a recognition grammar built up by at least a low-perplexity part and a high-perplexity part, each of which being representative for distinct low- and high-perplexity classes of speech elements. Finally, the cited combinations do not teach or suggest that word classes are used as classes for speech elements or fragments, all as recited in claim 1.

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The Office Action relies on Ehsani, paragraphs 216 and 102, for a teaching of pragmatic information. However, Applicant respectfully submits that the cited portions of Ehsani, and indeed the entirety of Ehsani, merely teach semantic information, rather than pragmatic information includes connecting information connecting said sub-phrases to actual situation, application, and/or action, as required by claim 1. Therefore, the applied combinations fail to render claim 1 unpatentable.

Further, the Office Action concedes that Ehsani and Kimura fail to disclose or suggest that a language model is used containing at least a recognition grammar built up by at least a low-perplexity part and a high-perplexity part, each of which being representative for distinct low- and high-perplexity classes of speech elements, and that word classes are used as classes for speech elements or fragments, as required by claim 1 (see Office Action, page 10). The Office Action relies on Chou (Col. 2, lines 61-65) for a teaching of this feature. Applicant respectfully submits that the cited portions of Chou, and Chou in general, do not disclose or suggest the above identified features of claim 1. Therefore, the applied combinations fail to obviate claim 1.

Finally, Applicant respectfully submits that there is no motivation, either in the references themselves or from the knowledge of one of ordinary skill, to combine Ehsani and Kimura with Chou. The motivation provided by the Office Action on page 10, rather than taken from the prior art, appears to be taken from Applicant's own disclosure. Applicant respectfully submits that a motivation, in order to be proper, must be taken from the prior art *before applicant's date of invention*, and cannot be gleaned from Applicant's own disclosure.

Therefore, Applicant respectfully submits that claim 1 is patentable.

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Claim 14 is similar, or somewhat similar, in scope and is therefore patentable for similar, or somewhat similar, reasons.

III. DEPENDENT CLAIMS

The other claims in this application are each dependent from one of the independent claims discussed above and are therefore patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION


In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited references, it is respectfully requested that the Examiner specifically indicate those portions of the references providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Applicant respectfully submits that all of the claims are in condition for allowance and requests early passage to issue of the present application.

Respectfully submitted,

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